ALVAREZ & MARSAL

Ackel, et al.
Plaintiffs

v.

CITGO Petroleum Corporation
Defendant

In the United States District Court
For the Western District of Louisiana
Case No. 02:07-CV1052

Supplemental Expert Report of Trevor E. Phillips, ASA, CRE, FRICS

May 26, 2009

EXHIBIT "A"

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ATTACHMENTS

OVERVIEW OF ASSIGNMENT

Alvarez & Marsal ("A&M") has been retained by the CITGO Petroleum Corporation ("the Defendant") in the *Ackel, et al. v. CITGO Petroleum Corporation* matter to analyze Plaintiffs' property damage claims. We have previously provided an Expert Report, dated February 15, 2008 and Supplemental Expert Report, dated July 30, 2008. Counsel for CITGO Petroleum Corporation, Barrasso Usdin Kupperman Freeman & Sarver, L.L.C. ("Counsel"), has requested that we provide this further Supplemental Expert Report based upon additional information considered, including the Expert Report of Robert A. Simons, dated April 17, 2009.

QUALIFICATIONS AND COMPENSATION

The résumé of Trevor Phillips and a list of the matters in connection with which he has given a sworn statement in the last four years are included with this report (Tab A).

A&M will be compensated in this matter as indicated in the Expert Report dated February 15, 2008.

BACKGROUND, DOCUMENTS REVIEWED AND PROCEDURES PERFORMED

We understand the Plaintiffs are claiming diminution in property value resulting from a release of certain chemical compounds into the Calcasieu Estuary on June 19, 2006 (the Release). Plaintiffs retained Dr. Robert Simons to quantify the alleged property value diminution, and as part of our work we analyzed the Simons reports; one dated April 2007, another dated January 2008, and another dated April 17, 2009. Our opinions with respect to the first two Simons reports remain as indicated in our previous Expert Reports. In this Supplemental Expert Report I set forth additional opinions regarding the Simons reports, most notably the April 17, 2009 report.

In preparation for conducting our analysis we have considered information obtained from a variety of sources, including documents and information produced in this litigation and discussions with industry personnel and Counsel. We analyzed available market transactions before and after the Release and reviewed the reports prepared by Dr. Simons as well as his new transactions data, his deposition testimony and

exhibits. In his Expert Report of April 17, 2009, Dr. Simons states that he "relied upon the professional appraisals prepared by Mr. Charles Adams of Westlake, Louisiana, in determining the present value of waterfront properties…"[1] Dr. Simons uses the value conclusions in Mr. Adams' appraisals as his basis for calculating alleged damage to each of the following five plaintiffs' properties:

- 4992 Airhart Road, Lake Charles
- 4938 Bay View Lane, Lake Charles
- 908 Henning Road, Sulphur
- 1246 Strait Drive, Sulphur
- 7100 Port Road, Sulphur

The information attached hereto or described herein may be used as exhibits in the trial of this matter. We may revise or amend this report if we receive additional relevant information and if we are requested to revise or amend by Counsel. We also may create trial exhibits to help explain our opinions. A listing of additional documents considered thus far is included as Tab B.

ANALYSIS

Analysis of Transactions Before and After the Release

In Dr. Simons' April 17, 2009 expert report, he states, "Flavin Realty ("Flavin") provided us with a database of sales of waterfront property in Calcasieu Parish from January 2003 through February 2009, obtained from the Multiple Listing Service."[2] We analyzed Dr. Simons' "case area" sales and found no market evidence supporting the claim for diminution in value related to the Release, consistent with the opinions in our Expert Report dated February 15, 2008 and our Supplemental Expert Report dated July 30, 2008.

[1] Expert Report of Robert A. Simons, dated April 17, 2009, page 4

[2] Expert Report of Robert A. Simons, dated April 17, 2009, page 10

We also analyzed other waterfront property transactions that took place in impacted areas before and after the Release and also found no market evidence supporting the claim for diminution in value related to the Release.

Interviews with Local Real Estate Professionals

Real estate appraisers tasked with evaluating the potential impact of adverse environmental conditions on market values typically interview local real estate professionals as an important source of local market information on which to rely when forming opinions. I have interviewed local real estate professionals to investigate their perspectives regarding any impact of the Release on residential waterfront property values or market activity. The uniform response is that demand for waterfront property has remained strong, prices continue to rise and market value has not been affected by the Release.

SIMONS' REPORT

Valuation of Plaintiffs' Properties

In his Expert Report of April 17, 2009, Dr. Simons relies upon appraisals prepared by Mr. Charles Adams of Westlake, Louisiana to estimate the value of the plaintiffs' properties in an assumed "as if clean" condition (unimpaired value). Simons then calculates alleged property value diminution damage based on Adams' unimpaired values.

I have observed the following issues regarding Mr. Adams' appraisals:

- Adams uses both "case area" and "control area" comparable sales in the post-Release period implying no price discount attributable to either the "case area" or the Release.
- Adams' appraisal reports include the following statements regarding his knowledge and consideration of any adverse environmental conditions when conducting his appraisals:
  - "I have taken into consideration the factors that have an impact on value with respect to the subject neighborhood, subject property, and the proximity of the subject property to adverse influences in the development of my opinion of market value. I have noted in this

appraisal report any adverse conditions (such as but not limited to, needed repairs, deterioration, the presence of hazardous wastes, toxic substances, adverse environmental conditions, etc.) observed during the inspection of the subject property or that I became aware of during the research involved in performing this appraisal. I have considered these adverse conditions in my analysis of the property value, and have reported on the effect of the conditions on the value and the marketability of the subject property."[3]

- "there are no known external conditions that would have any affect [sic] on value"[4]
- "no adverse easements, encroachments or environmental hazards were observed"[5] (included in all appraisals with the exception of the 1246 Strait Drive, Sulphur appraisal of the Naquin property on which an existing pipeline is noted)
- "For purposes of this litigation, I have assumed that this property is unimpaired by any environmental contamination."[6]

In all; but the 1246 Strait Drive appraisal, Mr. Adams includes three statements in each appraisal that contradict the position he takes in his statement beginning, "For purposes of this litigation…"

- Consistent with his statement in paragraph 14 of the "Appraiser's Certification" Mr. Adams would have noted and accounted for the impact on value and marketability of any adverse environmental condition he was aware of at the time he appraised the plaintiffs' properties. If he believed such conditions existed, he would have appraised

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[3] Charles E. Adams, Uniform Residential Appraisal Report, Appraiser's Certification, Paragraph 14
[4] Charles E. Adams, Uniform Residential Appraisal Report, Page 1
[5] Charles E. Adams, Uniform Residential Appraisal Report, Page 1
[6] Charles E. Adams, Uniform Residential Appraisal Report, Page 3

the properties under a Hypothetical Condition by making a clear statement regarding his opinion about such conditions and their impacts and that for purposes of this assignment he was appraising the properties under the Hypothetical Condition that the environmental conditions and impacts were absent. The Uniform Standards of Professional Appraisal Practice (USPAP) requires such a disclosure, and the lack of reference to a Hypothetical Condition, combined with the statement in paragraph 14 of the "Appraiser's Certification" suggests that Mr. Adams does not believe that there are any adverse environmental conditions that would affect the value or marketability of any of the five plaintiffs' properties he appraised.

Dr. Simons states that "...due to differences in types of waterfront property, the impact of complicating factors not usually present in such analyses (i.e., Hurricanes Katrina, Rita, Gustav, and Ike; and the nationwide mortgage crisis)...I cannot justifiably draw any conclusions from these real estate sales data..."[7] However, he relies upon the appraisals by Mr. Adams to determine the unimpaired market value of the Plaintiffs' properties and these appraisals are based on comparable property sale transactions, which were subject to any market impacts of "...Hurricanes Katrina, Rita, Gustav, and Ike; and the nationwide mortgage crisis".

Despite the conflicting statements in Adams' appraisals regarding his knowledge and consideration of the presence of any adverse environmental conditions, and Dr. Simons' position that the sales data are unreliable, Dr. Simons relies on the Adams appraisals as a basis for calculating alleged property value diminution damages.

Literature Review[8]

In the "overview and executive summary" of his April 17, 2009 report, Dr. Simons cites several sources used in his "literature review" as support for his opinion of alleged damages. However, none of the

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[7] Expert Report of Robert A. Simons, dated April 17, 2009, page 2

[8] Expert Report of Robert A. Simons, dated April 17, 2009, pages 19, 20

articles cited by Dr. Simons contain case examples with property, neighborhoods, environmental conditions and other circumstances that are analogous to the plaintiffs' properties.

In the article, *The Analysis of Environmental Case Studies*[9], authors Jackson and Bell provide a practical framework for analyzing case studies and comparing the salient real estate and environmental similarities and differences with the subject property. According to Jackson and Bell:

> - "The first step in a case study analysis involves research into the subject property and a determination of the key factors that impact that property. Then, in an effort to determine any effect on value, case studies are developed from other properties that are similarly situated with respect to the subject property and its environmental condition. Like any valuation technique, case study analysis can be properly applied or it can be misused. In order for the analysis to be reliable and valid, the case studies must follow the simple "apples to apples" analogy. This means that the case studies being utilized must have similar property, market, *and* environmental characteristics to the subject property."[10]

Simons' "literature review" provides no basis or support for the alleged property value diminution damage to the plaintiffs' properties in this matter.

Potential Residential Buyer Market Survey

Observations regarding Dr. Simons' survey (contingent valuation) are addressed in our expert report dated February 15, 2008 and they still apply since the survey does not appear to have been updated. Observations include the fact that survey respondents are not informed about the environmental history and condition of the bayou or lake prior to the spill and no attempt is made to determine if any negative reaction

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[9] *The Analysis of Environmental Case Studies* by Jackson, Ph.D., MAI, Thomas and Randall Bell, MAI, The Appraisal Journal, January 2002

[10] *The Analysis of Environmental Case Studies*, page 86

of respondents is based on an unwillingness to purchase waterfront property within two miles of a refinery and therefore completely unrelated to the spill.

Survey methods can be helpful in investigating how markets may or may not react to various conditions, but they must accurately reflect the conditions being studied in order to be useful.

Dr. Simons' survey (contingent valuation) is biased and therefore the results cannot be relied upon to support the alleged property value diminution damage in this matter.

Residential Real Estate Sales Trends Analysis

According to Dr. Simons, "Flavin Realty ("Flavin") provided us with a database of sales of waterfront property in Calcasieu Parish from January 2003 through February 2009, obtained by the Multiple Listing Service. Flavin segregated the database into properties affected by the CITGO oil spill (the "case area," south of the I-210 bridge at the north end of Prien Lake) and those not so affected (the "control area," north of the I-210 bridge)."[11] Dr. Simons' analysis of this data reveals a rising price trend that contradicts his opinion of alleged property value diminution damage and he goes on to say that "this finding generates suspicion, as it is contrary to expectations based on economic theory"[12] and "accordingly, I conclude that the real estate sales trends data does not offer a reliable basis for evaluating the impact of the June 2006 CITGO oil spill on the value of waterfront properties owned by the Plaintiffs…"[13] Simons offers a further reason for discarding these contradictory facts, stating, "It seems likely that this shift in the type of homes sold in the case area reflects the impact of Hurricane Rita. With the case area located further to the south than the control area (and thus more susceptible to storm surge), houses with raised foundations became much more attractive to potential purchasers after the hurricane."[14]

Dr. Simons offers no evidence of the degree to which the hurricanes or the "national mortgage crisis" may have impacted waterfront property values. Further, there are almost three years of post-Release market data that can reasonably be analyzed to evaluate the impact, if any, of the Release on the value of

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[11] Expert Report of Robert A. Simons, dated April 17, 2009, page 10

[12] Expert Report of Robert A. Simons, dated April 17, 2009, page 11

[13] Expert Report of Robert A. Simons, dated April 17, 2009, page 12

[14] Expert Report of Robert A. Simons, dated April 17, 2009, page 12 (footnote 4)

waterfront property. Both Dr. Simons' and our analyses of post-Release transactions indicate that the release has not diminished waterfront property values.

CONCLUSION

In summary, I note the following:

- Despite the conflicting statements in Adams' appraisals regarding his acknowledgement and consideration of the presence of any adverse environmental conditions, and Dr. Simons' position that the sales data are unreliable, Dr. Simons uses the Adams appraisals and reduces the appraised, fair market values for the Plaintiffs' properties by 10.0 percent to 17.68 percent in his report.
- If Mr. Adams believed that any of the plaintiffs' properties were subject to any adverse environmental condition that could affect value or marketability, he would have performed the appraisals under the Hypothetical Condition that the adverse environmental condition and its impacts were absent, in compliance with USPAP.
- In Dr. Simons' "literature review" he does not cite case examples with property, neighborhoods, environmental conditions and other circumstances that are analogous to the plaintiffs' properties. The literature review therefore cannot be relied upon as support for alleged property value diminution damages stemming from the Release.
- Simons' "Potential Residential Buyer Market Survey" (contingent valuation) is biased and unreliable as evidence of damages in this matter.
- Dr. Simons' market transactions provide no evidence of property value diminution stemming from the Release, consistent with the opinions in our Expert Report dated February 15, 2008 and our Supplemental Expert Report dated July 30, 2008.
- Dr. Simons' market transactions provide no evidence of negative property value impacts associated with location in his "case area" or with the type of foundation.
- Local real estate professionals do not believe that the Release has adversely affected property values.

For the reasons stated above, Dr. Simons' reports and opinions related to diminution in value in this matter are flawed, without merit and unreliable. My opinion is that there is no evidence in any of the three Plaintiffs' expert's reports or in the market data which indicates a permanent diminution in value to Plaintiffs' properties related to the Release.

I may supplement this report if additional relevant information comes to light and if requested to supplement by Counsel.

Trevor E. Phillips, ASA, CRE, FRICS

Senior Director

May 26, 2009

Tab A

ALVAREZ & MARSAL

Trevor E. Phillips, ASA, CRE, FRICS
Senior Director

Summary of Professional Experience

Trevor Phillips has more than 25 years of real estate, construction and financial advisory experience counseling clients in the private and public sectors. His experience includes damage analysis in real estate, environmental, eminent domain, construction defect and breach of contract litigation matters; analysis of business interruption, property damage and environmental insurance claims; FEMA public assistance claims; real estate valuation; and industry experience in civil engineering design, construction cost analysis and construction management services in the United Kingdom and several Eastern Caribbean countries. He has testified at deposition, trial and mediation.

Mr. Phillips specializes in analyzing property value diminution claims associated with commercial and industrial properties as well as matters involving entire residential neighborhoods. He has evaluated and developed Value Assurance Programs designed to resolve neighborhood-wide property value disputes. Mr. Phillips' practice also includes disaster recovery services directing insurance and FEMA Public Assistance claims processes in the aftermath of natural disasters. His clients include public and private sector entities whose properties and operations were affected by hurricanes Katrina (2005), Rita (2005), and Ike (2008).

Mr. Phillips has been a frequent speaker on property value diminution claims and he has presented continuing education seminars to attorneys, insurance claims analysts, real estate professionals, and professional planners.

Since 1999 Mr. Phillips has served the community as a Mayor-appointed volunteer member and former Chairman (2004-2006) of the City of Houston's Land Redevelopment Committee (LRC). The LRC supports the City's Brownfields Redevelopment Program through technical assistance, fund-raising and public education initiatives.

* * *

Education

University of Florida
Master of Arts, Business Administration
Real Estate & Urban Analysis

Cardiff University, Wales, United Kingdom
Bachelor of Engineering (Honors)
Civil Engineering & Building Technology

Professional Designations/Certification

Fellow, Royal Institution of Chartered Surveyors - FRICS
Counselor of Real Estate - CRE
Accredited Senior Appraiser - ASA
State Certified General Real Estate Appraiser

Professional Affiliations

Member :
Royal Institution of Chartered Surveyors
The Counselors of Real Estate
American Society of Appraisers
Institute of Management Accountants

Associate Member :
Association of Certified Fraud Examiners
Appraisal Institute
American Bar Association

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Trevor E. Phillips, ASA, CRE, FRICS
Senior Director

Recent Expert Testimony

Parkway/Lamar Partners, L.P., v. Gerald Stavely
Cause No. 352-203162-03
352nd Judicial District Court, Tarrant County, Texas
Deposition (9/2005)

Dr. Robert H. Fain, Jr. v. John Daugherty Realtors, Inc., Neil Camberg and Deanna Camberg
Cause No. 2005-74126
270th Judicial District Court, Harris County, Texas
Trial (11/2007)

River Oaks Properties LLC v. CITGO Petroleum Corporation
Cause No. 2007-003442
14th Judicial District Court, Parish of Calcasieu, State of Louisiana
Deposition (4/2009); Trial (5/2009)

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Tab B

Documents Considered

1. Expert Report of Robert A. Simons (including exhibits), in the matter of *Alexander Leo Ackel, et al. v. CITGO Petroleum Corporation*, dated April 17, 2009

2. Deposition of Robert A. Simons, in the matter of *Alexander Leo Ackel, et al. v. CITGO Petroleum Corporation*, May 4, 2009

3. Simons, Robert A. "Estimating Proximate Property Damage from PCB Contamination in a Rural Market: A Multiple Techniques Approach." The Appraisal Journal (October 2002): 388-400.

4. Deposition of Robert C. Barrick, in the matter of *Alexander Leo Ackel, et al. v. CITGO Petroleum Corporation*

5. Deposition of Plaintiffs, in the matter of *Alexander Leo Ackel, et al. v. CITGO Petroleum Corporation*

6. Carson, Richard T., Robert C. Mitchell, Michael Hanemann, Raymond J. Kopp, Stanley Presser, Paul A. Ruud. "Contingent Valuation and Lost Passive Use: Damages from the Exxon Valdez Oil Spill." Environmental and Resource Economics 25 (2003): 257-286.

7. Bell, Randall. "Contaminated Waterways and Property Valuation." The Appraisal Journal (Fall 2008): 344-354.

8. Appraisals of Plaintiffs' properties by Charles E. Adams

9. "Comment on "Contingent Valuation: Not an Appropriate Valuation Tool"" The Appraisal Journal (Summer 2006): 295-304.

10. Jackson, Thomas O., "When Good Things Happen to Bad Properties" The Appraisal Journal (Spring 2009): 112-116.

11. Jackson, Thomas O., and Randall Bell, "The Analysis of Environmental Case Studies" The Appraisal Journal, (January 2002)

Valuation of Contaminated Property

111.1501 Introduction

The valuation of contaminated real estate is a challenging assignment. Fortunately, over the last few years there have been many advances that facilitate a reliable analysis. Determining the effect that contamination has on the marketability and value of real property did not become a major issue in the United States until the enactment of the Comprehensive Environmental Response, Compensation, and Liability Act in 1980. The imposition of CERCLA's joint and several liability program prompted new concerns for owners of contaminated property, primarily because of the financial costs associated with cleaning up contamination and related health risk concerns. Owners are strictly liable for cleanup under the statute[1] and similar state statutes, and therefore are responsible for paying cleanup costs.

When CERCLA was first enacted, some reactions in the real estate and lender markets bordered hysteria. While still a significant and complex issue, generally environmental science has improved significantly, with both better assessment and evolved remediation measures. Government agencies also have instituted more sensible oversights and valuation methodologies have become far more refined.[2]

Furthermore, contamination must be considered in context of the overall purchasing decision criteria, coupled with the realities of industrialized society. While nobody goes out of their way to live or work on or near a contaminated site, the larger question is whether or not the contamination issue has a material impact in the market, when considered along with the host of other relevant real estate issues. Such issues could include location, square footage, amenities, access, the availability of other properties, and so forth. Some contaminants, such as asbestos, lead, arsenic, and mold, are naturally occurring materials. Exhaust and factory emissions emit some level of pollution and any discharge into a sewer line could impact water supplies. In an industrial society, some "background" levels of hazardous materials contaminate virtually all properties. Contamination does not automatically translate into a diminution in value. Indeed, a "property is considered innocent until it is proven guilty, by market data."[3]

111.1502 Damage Economics

Real estate damage economics has made considerable strides over the last several years. Today, the Appraisal Institute, based in Chicago, has various courses, numerous articles, and books published on the topic. The scope of a real estate damage assignment typically includes (1) determining the "unimpaired" property value, assuming that the detrimental condition does not exist, if necessary, utilizing the traditional appraisal approaches; (2) demonstrating proficiency in the accepted real estate damage economic methodologies; (3) reviewing the specific environmental factors; (4) identifying the appropriate valuation methodology and collecting and analyzing environmental market data; and (5) concluding what the impact is, if any, on the "unimpaired " condition of the subject property resulting from the detrimental condition.

(a) Unimpaired Valuation

A diminution in value study often is expressed as a percentage of the baseline or unimpaired value. Accordingly, the first step often involves determining the value of the subject property, utilizing the traditional approaches to value, under the hypothetical assumption that the detrimental condition does not exist. If the market data shows that there is no diminution in value, this step may not be necessary. Generally, the unimpaired valuation is based upon the "market value" of the subject property, assuming that it is unimpaired.

"Market value" is defined as:

> [T]he most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

[1] 42 USC 9607 .

[2] Richard A. Neustein and Randall Bell, "Diminishing Diminution – A Trend in Environmental Stigma," *Environmental Claims Journal* (Vol. 11, No. 1/Autumn 1998): 47-59.

[3] Orell Anderson, MAI, "Environmental Contamination: An Analysis in the Context of the Detrimental Conditions Matrix," *The Appraisal Journal* (July 2001): 323

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EXHIBIT "B"

- both parties are well informed and/or well advised, and acting in what they consider their own best interests;
- a reasonable time is allowed for exposure in the open market;
- payment is made in terms of cash in United States dollars or in terms of financing arrangements comparable thereto; and
- the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale." [4]

Determining the unimpaired market value ultimately is the result of applying the traditional approaches to value, specifically, the cost approach, the income approach, and the sales comparison approach. In all three approaches, sales or rental comparables can be derived from the market, adjusted for differences between them and the attributes of the subject property, and utilized in the valuation process. In some cases, such as where the property was purchased without knowledge of any detrimental condition, the purchase price inherently may reflect the unimpaired value.

(1) The Cost Approach

The cost approach to valuation combines the value of the land (based on comparisons with similar properties) and then factors in the costs of replacing or reproducing property improvements with deductions for property obsolescence and depreciation. Property appraisers use this approach primarily to assess unique types of properties such as libraries, schools, churches and hospitals, new or proposed projects.

For example:

Land Value (60,000 SqFt @ $10/SqFt)	$ 600,000
Improvement Cost New (10,000 SqFt @ $55/SqFt)	550,000
Less Depreciation (5 Year Age/50 Year Life=10%)[5]	(55,000)
Depreciated Value of Improvements	495,000
Land and Depreciated Improvements	$1,095,000

(2) The Income Approach

The income approach to valuation focuses on a property's ability to generate revenue and income. The income approach is applicable to income producing properties, such as office buildings, retail centers, and industrial properties. The potential gross income first is computed by analyzing lease and rental comparable data, subtracting vacancy and expenses, and capitalizing the net income. This is done by dividing the net operating income by the capitalization rate. The capitalization rate generally is derived from dividing the net income by the price of sales comparables. A discounted cash flow analysis also may be performed.

For example, if the subject property generates $100,000 in net operating income, and comparable capitalization rates are 10 percent, then the indicated value of the subject property is $100,000 divided by 10 percent, or $1 million.

Potential Gross Income	$ 175,000
Less Vacancy & Collections	10,000
Effective Gross Income	165,000
Less Expenses:	
Taxes	10,000
Insurance	5,000
Management	15,000
Maintenance	10,000
Utilities	20,000
Reserves	5,000
Net Operating Income	100,000
Capitalization Rate	10%
Indicated Value	$1,000,000

(3) The Sales Comparison Approach

The sales comparison approach, also known as the market data approach, compares data from recent sales of similar properties to determine the property's market value. Essentially the sales comparison approach compares the price per square foot, or some other unit of comparison, of sales comparable market data, to the subject property.

For example, if the sales comparables have sold for an adjusted price of $95 per square foot, then multiplying the square footage by this figure derives the value of the subject property.

10,000 SqFt @ $95/SqFt = $950,000

Once the three approaches to value are utilized, they are reconciled into a final estimate of value. In these examples, the cost approach indicated a value of $1,095,000, the income approach indicates a value of $1,000,000 and the Sales Comparison indicates a value of $950,000. The final estimate of the baseline value would fall within this range.

(b) General Detrimental Conditions

Having addressed the fundamental elements of appraisal, but prior to focusing upon environmental conditions, it should be recognized that contamina-

[4] Appraisal Institute, Dictionary of Real Estate Appraisal, Fourth Edition (Chicago: Appraisal Institute, 2002), 177-178.
[5] Depreciation tables can also be used in these calculations.

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tion is a subset of hundreds of detrimental conditions that may impact real estate values. Of the hundreds of conditions, all can be categorized into one of ten categories.

THE BELL CHART
Ten Categories of Research & Damage Economics

ID Class		Research
I	General Condition	**General descriptive information** i.e., size, CC&R, access, history, title, lease, bond, easement, title, zoning, etc.
II	Transactional Condition	**Issues unique to a transaction** i.e., special motivation, option, "fire-sale", assemblage, financing, exchange, sale-leaseback, foreclosure, feng shui, etc.
III	Market Condition	**Market trends and cycles** i.e., recession, "seller's market", "buyers market"
IV	Distress Condition	**Legal matter, insurance claim, tragedy,** i.e., crime, terrorist, fire, war, death, criminal record, violation, eminent domain, lien, etc.
V	External Condition	**Neighborhood issues** i.e., noise, odor, hazard, power lines, airport, view diminution, etc.
VI	Building Condition	**Improvements or construction issues** i.e., defects, termites, pests, ADA, code violations, permits, repairs needed, etc.
VII	Site Condition	**Soils or geotechnical issues** i.e., drainage, basins, grading, fill, cracking, subsidence, slides, corrosive soils, compaction, groundwater, settlement, etc.
VIII	Environmental Condition	**Contamination or environmental issues** i.e., septic, spills, haz-mat, asbestos (1979), lead paint (1978), mold, agency lists, radioactive, metals, solvents, biological, hydrocarbons, etc.
IX	Conservation Condition	**Natural or cultural resource issues** i.e., habitat, endangered species, natural or cultural resources, archeological, shoreland, wetland, etc.
X	Natural Condition	**Natural hazards or problems** i.e., flood, wildfire, seismic, volcano, tornado, storm damage, etc.

Damage Valuation

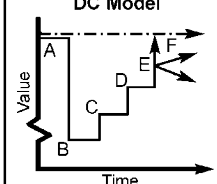
There are numerous issues that may be researched by real estate professionals. Many issues have no impact on value, but if a question of value arises, a Detrimental Condition (DC) analysis is required. The starting point for such an analysis is the DC Matrix, which illustrates the array of potentially relevant issues. All nine elements of the DC Matrix should be considered. This can yield a

Detrimental Condition Matrix

	Assessment	Repair	Ongoing
Cost	Assessment Costs & Responsibility	Repair Costs & Responsibility	Ongoing Costs & Responsibility
Use	Use Impacts While Assessed	Use Impacts While Repaired	Impact on Highest & Best Use
Risk	Uncertainty Factor	Project Incentive	Market Resistance

variety of valuation patterns based upon the inclusion, exclusion and timing of each element, as reflected in the DC Model. Damages are benchmarked against the *Baseline Value*. In determining the impact on value, it is critical that a distinction be made between the DC and unrelated issues. For example, market conditions may be responsible for a change in value that is unrelated to the condition being studied.

DC Model



Key to Graphs
–·–·– Unimpaired Value
——— Value With DC
A: Unimpaired Value
B: DC Occurs-Discovered
C: Assessment Stage
D: Repair Stage
E: On-Going Stage
F: Market Resistance

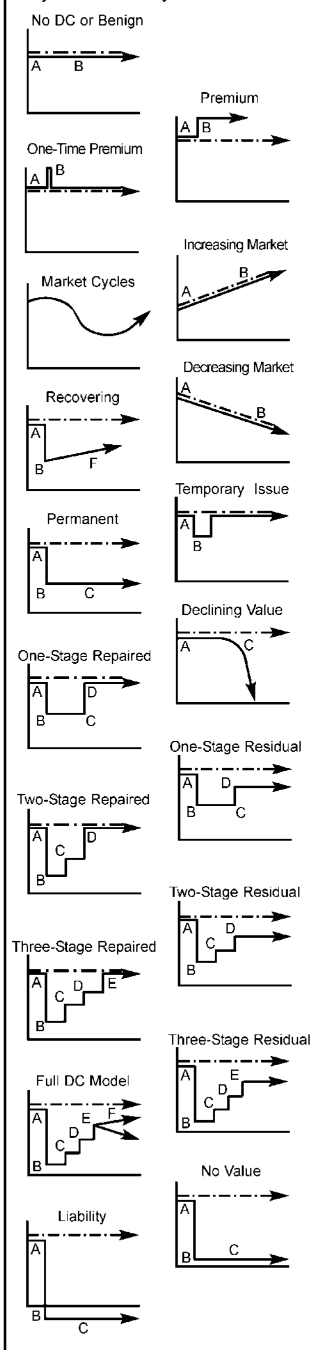
The impact of DCs on property values is ultimately an empirical question that requires the application of one or more of the three traditional approaches to value:

1. The Sales Comparison Approach utilizing market data with and without the DC.
2. The Income Capitalization Approach utilizing income and risk factors with and without the DC.
3. The Cost Approach utilizing data with and without the costs and losses associated with a DC.

The DC Matrix, coupled with the three approaches to value, provides the fundamental framework for the analysis of DCs. (From the book, *Real Estate Damages*)

Damage Economics

DCs may have a variety of impacts which, upon analysis, vary on a case-by-case basis.



[§111.1502(b)]

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Detrimental Conditions Matrix			
	Assessment	Repair	Ongoing
Cost	Cost to Assess Damage	Cost to Repair or Remediate	Ongoing Costs i.e., monitoring
Use	Impact on Use While Assessed	Impact on Use While Repaired or Remediated	Ongoing Impact on Use or Impact on Highest & Best Use
Risk	Uncertainty Factor	Project Incentive	Market Resistance

As the Bell Chart illustrates, environmental contamination is a Class VIII Detrimental Condition (DC). Like any category of DC, it has unique issues that must be considered.

The basic framework for valuing any real estate damage allegation begins with the Detrimental Conditions Matrix (see chart, top of this page).[6] While the nine quadrants within the matrix may not all be applicable, they all should be considered in the context of every valuation assignment:

Assessment Stage. This stage typically applies to the period where engineers or other consultants assess the extent of physical damage.

Repair Stage. This stage includes the time period when any property conditions are corrected, repaired, or remediated. This includes any costs associated with repairing the damages, any disruptions to use during any necessary remediation, and any project incentive to entice a buyer to purchase a property that is damaged but not yet repaired.

Ongoing Stage. This stage computes any ongoing costs such as environmental, geotechnical, or noise monitoring, etc.; any ongoing alterations to the use or highest and best use of the subject property; and any ongoing risk, termed "market resistance" (sometimes called "stigma"), which could exist as a result of the construction issues.

111.1503 Environmental Issues

With the general frameworks for valuation and detrimental conditions established, the next step is to investigate the specific environmental issues. In 2003, the Uniform Standards of Professional Appraisal Practice (USPAP) adopted the cost, use, and risk issues set forth within the DC Matrix, specifically when dealing with environmental issues.[7] Considered within the "assessment," "remediation," and "ongoing" stages, the nine quadrants should be researched carefully in the context of environmental issues.

Appraisers must look to the marketplace for answers and analyze what the marketplace itself is actually saying. Scientific conclusions about persistence of contaminants do not necessarily correlate with the marketplace's conclusion about the duration of economic impact on real estate.[8] Accordingly, one must ask, "Can the ultimate reliability of the valuer's results be demonstrated and supported by credible market evidence?"[9]

(a) Assessment Costs

Prior to any valuation, a qualified engineer must characterize the extent of any contamination. The types of contaminants, along with the level of contamination, should be known. Most, if not all, properties have trace or detectable levels of background contamination. This is virtually irrelevant. The relevant question is whether or not the level of contamination meets an "actionable level" of the U.S. Environmental Protection Agency (EPA) or other governmental agency. The reasonable costs for performing an assessment to determine the level of contamination, called a Phase II assessment, would be considered within this quadrant of the DC Matrix.

[6] Randall Bell, *Real Estate Damages: An Analysis of Detrimental Conditions* (Chicago: Appraisal Institute, 1999), 8-15. Also see Randall Bell, "The Impact of Detrimental Conditions on Property Value," *The Appraisal Journal* (October 1998): 380-391.

[7] 2003 Uniform Standards of Professional Appraisal Practice, Advisory Opinion 9.

[8] Richard J. Roddewig, "Temporary Stigma: Lessons from the Exxon Valdez Litigation," *The Appraisal Journal* (January 1997): 100.

[9] John D. Dorchester, Jr., "The Federal Rules of Evidence and *Daubert:* Evaluating Real Property Valuation Witnesses," *The Appraisal Journal* (July 2000): 306.

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(b) Assessment Use

Some types of contaminants can cause a disruption to property use and others do not. For example, if chlorinated solvents are found in the soils of an industrial park, and drinking water aquifers are not impacted, then the typical use of the property may continue undisrupted. On the other hand, if the assessment process disrupts the use of the property, or if engineers or health officials believe that there may be an exposure risk until the site is characterized, there may be a disruption of use. For owner-occupied properties, such losses often are computed as the cost of leasing substitute facilities while the assessment is conducted. For investment properties, the loss of income often is the best way to measure the impact on use.

One of the basic facts relating to contamination and liability under the law is whether a property is a source of a release that poses a risk, merely a non-source or adjacent property onto which the contamination has migrated, or merely proximate to the contamination.[10] As such, a critical factor within this quadrant of the DC Matrix is called "SNAP."

Specifically, SNAP means determining if the property is a "source property" (the property from which the contamination was emitted), "non-source" (a property that was contaminated by the adjoining property owner), "adjacent" (a property that is not contaminated, but that shares a property boundary with one that is), or "proximal" (a property that is not contaminated, is not adjacent to one that is, but is located in the same general area as a contaminated property). This distinction is essential, as there are varying costs, liabilities, and risks depending on the category into which the subject property falls. Generally, a source property has more potential for risk than an adjacent property.

Stigma claims can arise when a property is located near contaminated property and has suffered an alleged diminution in value because of its proximity to the contamination. Generally, when a plaintiff brings a marketplace stigma claim, there is no direct physical impact on the plaintiff's property (adjacent or proximal) and no substantial interference with the plaintiff's use of the property. Therefore, in seeking to recover damages, the plaintiff's intention is to be compensated economically for the diminution in property value and not for any physical harm or invasion onto the land.[11]

(c) Assessment Risk

Stigma, which is better termed risk, reflects any discounts by the marketplace as a result of the detrimental condition. Diminution in value tends to be greatest immediately after the loss or damage is identified, before the nature and extent of the difficulty is fully known.[12]

There are different types of risk depending on the stage within the overall lifecycle of the detrimental condition. The risk before remediation can be significantly different from the risk during remediation and any risk remaining after remediation, and current valuation methodologies take this into account.

Prior to the characterization of a site, there can be tremendous uncertainty regarding type or levels of contamination. Often, uncharacterized properties do not sell until a Phase II site assessment has been completed. It is conceivable that a property can sell in a contaminated but uncharacterized condition, and any discount to the property would be termed an uncertainty factor. However, once characterized, this type of risk becomes moot.

(d) Remediation Costs

Of all the quadrants of the DC Matrix, remediation costs often are the most obvious. Environmental engineers generally provide these costs, often in the form of a competitive bid. Like any situation involving contractors, there can be a variance in cleanup costs between different firms, and some proposals may be more competitive or comprehensive than others.

Defining the responsibility for cleanup costs also is considered in this category. For example, if a military base emits a large hydrocarbon plume that spreads throughout the neighborhood and underneath a residential neighborhood, one would not deduct the cleanup costs from the value of the house, because the responsibility for the cleanup belongs to the military base, and not to the homeowner.

(e) Remediation Use

There is a wide array of remediation measures. Some methods are nonintrusive and others require vacating and partial site excavation. Accordingly, if a service station has a nonintrusive vapor extraction unit installed that allows the business to continue uninterrupted, there may be no deductions for loss of use. On the other hand, if the business is shut down

[10] Bell, 128-129.

[11] *See generally* Anthony Vale and Joanna Cline, *Stigma and Property Contamination—Damnum Absque Injuria*, 33 Tort & Ins. L. J. (Spring 1998) and E. Jean Johnson, *Environmental Stigma Damages: Speculative Damages in Environmental Tort Cases*, 15 UCLA J. Envtl L. & Pol'y 185 (1996-1997).

[12] Michael V. Sanders, "Post-Repair Diminution in Value from Geotechnical Problems," *The Appraisal Journal* (January 1996): 63.

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or moved, and the site is excavated, there may be substantial impact associated with the loss of use. This often is computed by measuring the lost income, or if moving is a possibility, determining the costs of leasing alternative facilities until the remediation is completed.

(f) Remediation Risks

If a contaminated property sells in a characterized, but unremediated condition, then the market may require a discount for the nuisance of managing the clean up. This type of "risk" is called "project incentive." Nonetheless, this is far from being an "automatic" deduction, and there are numerous instances where no such discount is applicable in the sale of contaminated property.

There can be a concern, or risk, that the remediation costs may escalate beyond those that were originally estimated. In these situations, insurance controls, called "cost cap" insurance, may be purchased that insure against this concern. Furthermore, indemnification from a responsible party can reduce or eliminate this type of risk.

(g) Ongoing Costs

With environmental properties, there can be ongoing costs and expenses, even after the remediation is completed. Typically, these would include ongoing monitoring programs. This cost is computed by projecting forward these costs with inflation, and then discounting the expense flow to a lump sum figure.

(h) Ongoing Use Impacts

After remediation, there can be ongoing impacts to the use of the property. These could include ongoing monitoring or institutional controls, such as deed restrictions, that restrict the future uses of the property.

If the property is restricted from a use that would not have been contemplated anyway, such as a childcare facility in an industrial area, such restrictions may have little or no detrimental impact. However, if the restriction has a material impact on the use or redevelopment uses of the property, this could cause a diminution in value.

(i) Ongoing Risk

When the term "stigma" is utilized, it is most often in the context of an ongoing risk. Although the term "stigma" still is used, there has been a trend in the real estate community to refer to this risk factor as "market resistance." *Webster's New World Dictionary* (3rd ed. 1988) defines stigma as "something that detracts from the character or reputation of a group, person, etc.; mark of disgrace or reproach . . . a mark, sign, etc. indicating that something is not considered normal or standard."

Calculating property damages traditionally depends on whether the injury is permanent or temporary and curable. When injury to the property is permanent the appropriate measure is the diminution in property value, which is determined by the difference in the fair market value of the premises before and after the injury.[13] If the injury is temporary and "reasonably curable by repairs," the measure of recovery may be any depreciated rental or use value or repair costs if they are less than the diminished market value.[14]

Awarding marketplace or proximity stigma damages is not well-settled law. Federal and state courts are split on the issue.[15] Generally, courts are less likely to allow claims for marketplace stigma than for stigma claims based on damages to property that is or was actually contaminated.

Bixby Ranch v. Spectrol Electronics Corp.[16] was the first case to award permanent post-cleanup stigma damages. In *Bixby,* the claim for stigma damages was based on the theory that even though the defendant agreed to clean up the property to current government standards, it was possible that remediation standards would change in the future, which could require additional remediation. Using the sales comparison approach, comparing the site with pristine sites, the experts stated even after the cleanup, the property would be devalued. The jury agreed, and awarded $826,500 in permanent post-cleanup stigma damages. Since the *Bixby* case, many other courts have ruled on post-cleanup stigma damages.[17]

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[13] Keeton at § 89, 637-640.

[14] *Id.*

[15] *See Desario v. Industrial Excess Landfill Inc.,* 68 Ohio App. 3d 117, 587 N.E.2d 454 (Ohio Ct. App. 1991) (physical intrusion is not needed for a proximity stigma damage claim); *See also Allen v. Uni-First Corp.,* 151 Vt. 229, 558 A.2d 961 (1988) (claims for property devaluation, lacking evidence of actual physical harm to a particular property, can be supported by showing contamination's widespread impact on the neighborhood); *Adkins v. Thomas Solvent Co.,* 440 Mich. 293, 487 N.W.2nd 715 (Mich. 1992) (*See discussion infra.*) *But see Berry v. Armstrong Rubber Co.,* 989 F.2d 822 (5th Cir. 1993), *cert. denied,* 510 U.S. 117 , 114 S.Ct. 1067 (1994) (market value loss due to stigma is not actionable absent actual or threatened physical property damage); *Adams v. Star Enterprise,* 51 F.3d 417 (4th Cir. 1995) (recovery not allowed for property diminution resulting from negative public perception); *Wilson v. Amoco Corp.,* 33 F. Supp. 2d 969, 980 (D. Wyo. 1998) (plaintiff may not recover damages based solely on stigma absent proof of some physical injury or harm to the specific plaintiff's property, plaintiff must establish a nuisance, trespass, or negligence claim independently), and 33 F. Supp. 2d 981 , 986 (D. Wyo. 1998) (related case).

[16] No. BCO2556 slip op. (Cal. Super. Ct. 1993).

[17] *See In re Paoli Railroad Yard PCB Litigation,* 35 F.3d 717

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Ultimately, when stigma or risk is evaluated, any mitigation strategies should be considered, including insurance policies or indemnifications that may offset or eliminate any such risks altogether.

111.1504 Environmental Valuation Methodologies

The DC Matrix outlines the issues that must be considered with every assignment involving contamination or other real estate damage issue. The valuation methodologies applied must address these issues.

A market does exist for purchasing damaged real estate. Properties with minor damage or where the damage has been repaired may sell for full value or there may be a diminution in value, depending upon the market data. The Uniform Standards of Professional Appraisal Practice specifically mandates that any deduction from the unimpaired value for environmental issues must be supported by market data. In other words, an appraiser or economist may not just state a figure that is based solely upon their experience. In the context of the environmental issues that must be addressed within the DC Matrix, there is a clear contrast between a standard appraisal, which hypothetically dismisses any environmental issues, and an environmental valuation, which does address the realities of the environmental conditions of the property (see Environmental Economics exhibit at EDDG 111:1510).

(a) DC Cost Approach

With contaminated properties, this approach can be utilized by deducting the "costs" that are related to the contamination issues from the unimpaired value.[18]

(3d Cir. 1994) (plaintiff can recover damages for diminution of property value caused by market stigma from fear of physical danger, without any actual harm, under a permanent nuisance theory if the plaintiff can show that the property cannot be restored to its original market value). *See also Scribner v. Summers,* 138 F.3d 471 (2nd Cir. 1998) (owners of contaminated land may be entitled to stigma damages for injury to their land remaining even after remediation efforts are complete); *Bradley v. Armstrong Rubber Co.,* 130 F.3d 168 (5th Cir. 1997) (Mississippi would permit recovery of stigma damages in a toxic contamination case if the property cannot be restored to its pre-contamination condition); *Nashua v. Norton,* 1997 WL 204904 (W.D.N.Y. 1997) (Damages for a public nuisance action are not limited to response costs, but also may include stigma damages if the plaintiff's property cannot be restored to its pre-contamination value); *Santa Fe Partnership v. ARCO Products Co.,* 46 Cal. App. 4th 967, 54 Cal. Rptr. 2d 214 (1996) (Post-remediation stigma damages for chemical pollution are unavailable under continuing nuisance or trespass theories, but can be recovered where the nuisance is permanent or unabatable).

Unimpaired Value	$1,000,000
Less:	
Assessment: Costs, Use, and Risks	30,000
Repair: Costs, Use and Risks	50,000
Ongoing: Costs, Use, and Risks	20,000
Value, As Is	$ 900,000

(b) DC Income Approach

Essentially, with income-producing contaminated properties, the objective is to examine the income and expenses to determine if the situation has any impact on the income, expenses, or the capitalization rate. When the approach is applicable, there are various factors that should be considered, including lost rents; increased vacancy; projected costs and time of the cleanup; any indemnity, mortgage and equity yield rates; and financing costs.

When utilizing this approach, there are two key questions that should be asked. First, has the net operating income been impacted by the contamination, i.e., lower rents, higher vacancy, one time expenses, higher ongoing expenses, and so forth? Second, has the capitalization rate been impacted as a result of the contamination? Because the capitalization rate is actually a weighted blend of both lenders' and investors' interests, this issue can be addressed by interviewing both lenders and investors to determine how each have reacted in situations involving loans or purchases of similarly contaminated properties.

For example, if the income remains the same, but the capitalization rate has been affected by the contamination, then the value would be impacted, as demonstrated below:

The capitalization rate, which in this example is 9 percent, is actually a weighted blend of the equity rate (the return required by investors) and the mortgage constant (the rate required by a lender). The proportion is a relationship of equity and debt.

Equity: 25%	X .12 (Equity Rate)	=	.0300
Debt: 75%	X .08 (Mortgage Constant)	=	.0600
Indicated Capitalization Rate		=	.0900
		=	9.0%

[18] It should be noted that the Cost Approach for contaminated property, like conventional appraisals, has a more limited role in actual valuation assignments. Furthermore, elements of the Sales Comparison Approach or the Income Approach are utilized in some of the calculations of the Cost Approach.

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Accordingly, if the property has $180,000 of net operating income, the indicated value as if unimpaired would be as follows:

Net Operating Income: $180,000/9% = $2,000,000

If the market does not alter any component of the capitalization rate, such as the equity rate or the loan constant or the loan-to-ratio value, then there would be no diminution in value.

However, if lenders now require a 50 percent down payment, for example, rather than the conventional 25 percent, the capitalization rate would be impacted, and accordingly, so would the value.

Equity: 50%	X .12 (Equity Rate)	=	.0600
Debt: 50%	X .08 (Mortgage Constant)	=	.0400
Indicated Capitalization rate		=	.1000
		=	10%

Accordingly, if the property has $180,000 of net operating income, the indicated value, as if impacted by the environmental issues, would be as follows:

Net Operating Income: $180,000/.10%=$1,800,000

In this example there would be a $200,000 diminution in value ($2 million less $1.8 million) from the risks associated with the environmental contamination.

(c) DC Sales Comparison Approach

When applicable, this approach often is employed by cross-referencing contaminated properties, obtained from governmental agency databases, with public records that indicate whether or not the property has sold. If so, then additional information can be gathered, such as the types and levels of contaminants, if it sold cleaned or dirty, if there were any discounts to the sales price as a result of the contamination, and so forth.

Unimpaired Value (From Comparable Sales of Uncontaminated Property)	$1,000,000
Less:	
Remediation Costs (Verified with Party to Sale)	200,000
Sale Price, Contaminated (Actual Sales Price)	700,000
Project Incentive (To Be Solved)	$ 100,000
Project Incentive[19] ($100,000/$1,000,000)	10%

On the other hand, the market data could reflect that there is no risk or project incentive:

Unimpaired Value (From Comparable Sales of Uncontaminated Property)	$1,000,000
Less:	
Remediation Costs (Verified with Party to Sale)	200,000
Sale Price, Contaminated (Actual Sales Price)	800,000
Project Incentive (To Be Solved)	$ 0
Project Incentive[20]	None

Like a conventional sales comparison approach, adjustments can be made for differences between the contaminated property's characteristics and those of the subject property.[21] If, for example, several similarly contaminated properties were found that sold in a post-remediated condition for full value, then that market data would indicate that there would be no ongoing risk, or market resistance, in the case involving the subject property.

With any situation involving the diminution of value of real estate, there must be a methodology to measure any impacts when no case studies or market transaction data are available. One such accepted methodology is the "Survey Approach" whereby real estate professionals or others are formally surveyed in an effort to determine the most likely response from the marketplace. This approach has been published in the *Appraisal Journal* and the *Real Estate Damages* textbook.

Any survey should be in a written format and designed to outline the key facts in a fair and impartial way, and address the cost, use, and risk elements of the Detrimental Conditions matrix. There are various types of surveys, and for a statistical survey the "Law of Large Numbers" rule essentially states that if a homogeneous population of 30 or more is surveyed, then the survey is considered statistically valid from a population standpoint. On the other hand, an opinion survey of lenders or market participants may have less than this, and while not being a statistical survey, still may be valid.

111.1505 Conclusion

The diminution of property value caused by environmental contamination goes far beyond the conventional appraisal process. Ultimately, the value of contaminated properties is an empirical question that requires the application of one or more of the three traditional approaches to value that have been re-

[19] This risk could also include "market resistance," depending on the stage in which the property sold.

[20] Ibid.

[21] Thomas Jackson and Randall Bell, "The Analysis of Environmental Case Studies," *Appraisal Journal* (January 2001): 87

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fined to address the unique aspects of damaged properties. Market data is required in supporting any diminution in value conclusion. These methodologies, coupled with more sensible government agency regulations, improved assessment and remediation engineering, insurance products, and other industry improvements, can result in a sensible and reliable estimate of value.

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ENVIRONMENTAL ECONOMICS

Appraisals vs. Environmental Valuation

	APPRAISAL	ENVIRONMENTAL VALUATION
Conforms to the Uniform Standards of Professional Appraisal Practice (USPAP)	**Yes**	**Yes** A standard appraisal is a "starting point" for an environmental valuation
Environmental Condition Considered	**No** Generally all environmental issues are "assumed away"	**Yes** The actual condition of the property is analyzed
Comparable Market Data Required	**Yes** Typically obtainable from commercial data sources, such as COMPS.com, LoopNet, CoStar, MLS, etc.	**Yes** All opinions must be based upon case studies. Typically commercial data sources not available. Requires cross-reference of agency databases with public records, plus verification with key market participants. Dozens of "leads" may yield only one valid case study
Environmental Agency Research Required	**No**	**Yes** Extensive environmental agency research. For each comparable, a file (typically from 1 to 12 boxes) is reviewed. Often also involves a EDR or FirstSearch report.
Remediation Costs Analyzed	**No**	**Yes** Engineers are consulted in determining the most cost-effective remediation strategies
Impact on Use Analyzed	**No**	**Yes** All impacts on use are considered, including loss of use during assessment or remedation, and on-going impacts, such as deed restrictions
Environmental Risks Analyzed	**No**	**Yes** All environmental risks are studied, such as project incentive (entrepreneurial profit) or market resistance (stigma) and must be supported by actual market case studies or data
Mitigation or "Offsets" Considered	**No**	**Yes** Offsets, responsible parties and credit worthiness, and insurance or legal claims can be analyzed to derive a "net" impact on the property's value
"As Is" Valuation Conclusion	**No** Hypothetical (pretend) value that may or may not reconcile with the actual value	**Yes** The valuation is inclusive of the actual environmental conditions

[§111.1505]

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IN THE UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF LOUISIANA
LAKE CHARLES DIVISION
~~~~~~~~~~~~~~~~~~~~

ALEXANDER LEO ACKEL, et al.,

Plaintiffs,

vs. Case No. 2:07 CV 1052

CITGO PETROLEUM CORPORATION,
et al.,

Defendants.

~~~~~~~~~~~~~~~~~~~~

Deposition of
ROBERT A. SIMONS, Ph.D.

May 4, 2009
9:02 a.m.
Taken at:
Wyndham Cleveland at Playhouse Square
1260 Euclid Avenue
Cleveland, Ohio

Jill A. Kulewsky, RPR

EXHIBIT "C"

them?

A. Correct, I didn't need to. I would have liked to. If I had a minus 2 percent loss, I would have said, Okay, that's low, but it's a number, it makes sense, let's factor it in, but a plus number doesn't make any sense.

Q. If the trends analysis had shown a loss, you would have used it?

A. Even a zero, plausible zero with holding constant the types of properties we had before and after for case and control. If I had enough observations that were apples to apples that I could use, I would have considered it.

Q. If the trends analysis had shown a loss, you would have used it?

A. Yes.

Q. If the trends analysis had shown no change, you would have used it?

A. Plausibly no change, being able to control for the types of properties, in other words, holding all else constant, I would have used it. I would have at least considered it.

Q. The trends analysis actually showed an increase in value, so you rejected it?

A. Right. The reason it showed an increase is because we had a change in the types of properties that sold in the case area after the spill than before the spill. In other words, not comparable.

Q. So if you have a method that gives a result contrary to your theory, your approach is to reject those results?

A. Fundamentally right. Let me give you an example. Let's say before the spill we had only trailer houses selling and after the spill we had mansions selling, and you look at the average prices of both of those, you're going to get a huge difference because it would look like it would have gone up, but in fact, you have different kinds of units that are selling. You have to have the same kind of units selling so you could track small pools of property before and after.

I was surprised because I looked at the data, I said we should have enough sales to do this analysis, there were dozens of sales, but when you looked carefully and you picked through it, you don't have apples and apples comparable properties, and that's why I

properties I've given an 18 percent loss. So there's a methodology that says holding all else constant, properties that are affected to this kind of contamination, a standing house will go down in value by 10 percent.

Q. So your 10 percent number is an average for not just these five plaintiffs and not just the other plaintiffs in the Lundy stable of cases, but for all of the houses on the estuary that were impacted by the oil spill; is that right?

A. That's right.

Q. So if we go to an individual piece of property, since it's an average 10 percent, it could be zero, it could be 20 percent?

A. Well, I'm just assuming they're all 10 percent.

Q. I understand. But because of the nature of averages, you can't tell us anything more specifically about an individual piece of property than it is somewhere within zero to some other percentage? I mean, you don't know more, do you? You can't?

A. I think you're misstating what I said.

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF LOUISIANA
LAFAYETTE DIVISION

ALEXANDER LEO ACKEL, et al.	)	
	)	
Plaintiffs,	)	
	)	**NO. 2:07CV052**
v.	)	**JUDGE RICHARD T. HAIK, SR.**
	)	**MAG: JUDGE MICHAEL HILL**
CITGO PETROLEUM CORPORATION,	)	
	)	
Defendant.	)	

EXPERT REPORT OF ROBERT A. SIMONS, PH.D.

My name is Robert A. Simons, and I have personal knowledge about matters in this expert report because of my academic qualifications and my knowledge and experience described below. I make this expert report in support of the Plaintiffs' allegations for economic damages to real property with CITGO concerning an oil spill in the Lake Charles, Louisiana shipping channel reported on June 20, 2006.

I have a Ph.D. in City and Regional Planning, a Master's degree in Economics, and a second Master's degree in City and Regional Planning, all from the University of North Carolina at Chapel Hill. I also have a Bachelor of Arts degree in Anthropology from Colorado State University. I have published over 30 articles in peer-reviewed journals. Of these, over half pertain to environmental damages or contaminated land redevelopment. I have also published a book on redevelopment of contaminated lands (brownfields) and another on quantifying the effect of environmental contamination on property values. A recent curriculum vitae is appended to this expert report as Exhibit 1. It contains a list of articles I have published in recent years (see pages 31-34), as well as a list of other expert witness assignments (see pages 44-48). A list of documents reviewed in conjunction with this case is included as Exhibit 2.

I am a Professor of Urban Planning and Real Estate Development in the Levin College of Urban Affairs at Cleveland State University (CSU) in Cleveland, Ohio. At CSU, I teach graduate classes in real estate market analysis and finance, public finance and budgeting, urban planning, Ph.D. research methods, and environmental finance. For several years I was also the director of the Master's degree program in Urban Planning, Design and Development, and director of the Master of Arts in Environmental Studies program. I am also the Coordinator of the graduate certificate program in Urban Real Estate Development and Finance. I have been a Fulbright Scholar, and have taught and conducted research on contaminated land issues in other countries on several occasions.

EXHIBIT "E"

home values approximately double those of Calcasieu Parish. However, the owners of waterfront property are expected to likewise be above average with respect to the Parrish figures because the prices of these waterfront homes are also higher.

The survey instrument contains a baseline case to establish value, and three scenarios with potential environmental or nuisance-related disamenities. One scenario relates to waterfront homes with shoreline contamination from an oil spill at a nearby refinery and pertains to this case. With respect to the disamenities, the respondent is asked if they would make a bid on the property and, if so, how much. The instrument is quite detailed, avoids key pitfalls described in Mundy and McLean's contingent valuation articles in The Appraisal Journal and Journal of Real Estate Practice and Education (1998), and is an identical methodology to that used in peer-reviewed literature (Simons 2002; Simons and Winson-Geideman 2005, Simons and Throupe 2005). The instrument also does not specifically guide the respondent to oil-spill shoreline contamination, but "nests" the issue in a broader context.

Survey Results

Two factors are of key importance in evaluating the results. The first is the portion of respondents that would bid on a scenario. The ratio of "no bid" to total responses reflects the loss of market demand. The second factor pertains to value loss on sale. Of those that bid, the ratio of maximum bid to baseline case reflects the percentage they would pay. One minus this percentage reflects the discount. For example, if the person's baseline price was $500,000, and the maximum they would bid on the disamenity scenario is $200,000, then that would reflect a 60% discount. Instances in which a respondent's bid on the disamenity scenario exceeded their baseline price were considered invalid responses, and were excluded from the analysis of survey results.

The first part of the survey sets the stage and allows the respondent to become comfortable with the bidding scale. It also determines the average price of a property they are looking for, in the context of a job move.

The other scenarios for this case included a house near a business park, and a house with groundwater contamination from a leaking underground storage tank (LUST) at a gasoline station. On average, 76% and 24% of respondents bid on the business park and LUST scenarios, respectively.

***The first oil spill scenario*.** This scenario, presented to 200 interview respondents, determines the discount related to contaminated Calcasieu Parish waterfront property six months removed from the oil spill event. It reads as follows:

> ***The house has water frontage on a bayou connected to a navigable river. It has a one-acre lot with water access, and shallow draft boats can dock there. Fish, birds and other wildlife are present. About 2 miles away on the river is an oil refinery and docking facility. About 6 months ago, there was a waste oil spill, and over one million gallons of waste oil were released from the refinery into the river. The shoreline of the property you are looking at buying was oiled. The US Coast Guard***

> ***supervised the clean-up, but detectable levels of hazardous substances regulated by the US EPA and other waste oil constituents are still present in the nearby water and also on the property's shoreline. The refinery management has attempted to reduce these problems. Except for this factor the rest of the neighborhood is like yours, and the house is very similar to your house.***

The bidding issue was determined by the following question:

> ***Using the scale below, where –3 means you definitely would not bid and +3 means you would, how likely is it that you would make any offer on this house?***

Only 55 of 190 respondents (29%) offered valid bids on this scenario. In other words, 71% of the respondents did not bid. This reflects a substantial loss in the market demand for this type of property.

Of those that bid, the following question was asked:

> ***What is the most you would be willing to pay for the house?***

Of the 55 bids on this scenario, the prices offered were discounted by amounts between 0% (i.e., full value, the smallest discount) and more than 99% of full value. The average loss for the property six months after the oil spill from the refinery was 40%.

However, not all these bids necessarily would be in the market. Due to search costs, and the small number of bidders, the chances are reduced that any of the potential bidders would find a suitable home and place a bid that would be accepted by a seller. On the other hand, hugely discounted "bottomfishing" (very low) bids would have little value in the market, because it is the bids with the smallest discounts that would get the attention of sellers and culminate in a sale. For this case, due to the reduced percentage of potential buyers (29% bid), I consider likely market-clearing bids in the top half of the market (average loss of 20%), and the top quarter of the market (average loss of 10%). In other words, the average discount of the top half of potential bidders is 20% where information about shoreline contamination from the oil spill at the refinery is known.

The second oil spill scenario. A second scenario, gauging more immediate market responses to a refinery oil spill like that impacting waterfront properties in the Prien Lake/Moss Lake/Calcasieu Lake area, was tested with a different group of 200 respondents. The description reads as follows:

> ***The house has water frontage on a bayou connected to a navigable river. It has a one-acre lot with water access, and shallow draft boats can dock there. Fish, birds and other wildlife are present. About 2 miles away on the river is an oil refinery and docking facility. About one month ago, there was a waste oil spill, and over one million gallons of waste oil were released from the refinery into the river. The shoreline of the property you are looking at buying was oiled. A clean-up was attempted by the US Coast Guard and private industry, but was not completed. Stained shoreline, dead grass and vegetation, and oily sheens still remain. Visually***